AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

168. The Parathyroid and Tetany.

UNDER the title of "the parathyroid gland and its relation to the pathogenesis of tetany," Bruno Glaserfeld sums up our knowledge with regard to the physiology of the parathyroid and to the symptoms produced by disturbances of its functions (*Berl. klin. Woch.*, January 18th, 1909). Sandström first described the parathyroid gland in 1880. Anatomically, the gland has been found to vary in size, shape, and position not inconsiderably. In man it is usually placed directly touching the posterior surface of the thyroid gland, toward the lower and median border of the lateral lobes, and therefore lies in close proximity with the œsophagus and trachea. It is usually rounded or flattened, and resembles a lymphatic gland macroscopically. Its colour is brownish-red. More than one pair of parathyroid glands have not yet been seen in man, but occasionally only one gland has been found. Apart from this gland, an internal epithelial body situated in the structure of the thyroid gland has been seen in some animals, but it appears to be doubtful whether this occurs in man as a normal condition. Histologically, the glands consist of epithelial cells forming a compact contiguous mass, without reticulum, merely separated by septa carrying the vessels, but at times well-marked connective tissue septa are met with. The cells are partly large epithelial cells, with well-developed nuclei, which stain intensely, and almost structureless protoplasm, and partly large epithelial cells with small nuclei, very sharp edges, and granular, well-differentiated protoplasm. The idea which Sandström first expressed—that the parathyroids were embryonal thyroid glands—has been disproved, and it is now almost certain that these structures are independent, and arise from the third and fourth branchial arches. With regard to the pathology of these glands, Schmorl has described amyloid degeneration and miliary tubercles affecting them. Haemorrhages in the glands as well as hyperplasia has been described in connexion with tetany, while necrosis, tumour, and other changes have been met with on rare occasions. The experimental removal of the parathyroids in animals leads to the development of tetany. If some parathyroid tissue is left, the tetanic convulsions are mild, and only last for a short time, while recovery soon takes place. Some observers have attempted to dispute this, but it may be stated that the dependence of tetany on operative disturbance of the parathyroids has been proved. It is wrong to speak of a *tetania strumipriva; tetania parathyreopriva* is the proper term. The parathyroid gland is absolutely necessary for life, and no animal has been kept alive after the complete removal of this organ. Its functions may be said to regulate the proper balance of the motor nerve function. Glaserfeld inquires into the question whether tetany is always produced by some lesion of the parathyroid gland. Tetany is known to arise, apart from operative removal of goître, in certain occupations, in acute infectious diseases, in pregnancy, in chronic gastric affections, and in early childhood. The idea that these forms are primarily due to an insufficience of the gland is accepted by many astute observers. Experimentally the tetany of pregnancy alone has been dealt with. Thaler has removed the parathyroids of a rat, leaving one-half of one gland intact. No symptoms were seen, but tetany occurred as soon as the animal became pregnant. This experiment has been repeated in various forms with similar results, so that it may be accepted that pregnancy tetany is due to insufficiency of the gland. Tetany of childhood cannot be experimentally studied, but it has been found in a large proportion of the autopsies that haemorrhages in the parathyroids was present. With regard to the other forms, one very significant fact is emphasized. Trophic disturbances, especially affecting the skin, nails, etc., are frequently met with in these cases, and similar trophic disturbances were described by Erdheim in experimental tetany. The author considers, therefore, that it is justifiable to regard human tetany as a condition which stands in relationship with affections of the parathyroid. So far no defined tetany toxin has been discovered, and, although various theories with regard to the way in which tetany is produced have been brought forward, no actual evidence in this direction is available. Tetany has been treated by means of animal parathyroid gland or some preparation of the same. Löwenthal, Wiebrecht, and MacCallum report on favourable results, while in tetany of childhood no benefit has yet been obtained.

169. The Sign of "Tapotage" in Pulmonary Phthisis.

IN 1904 Erni described a symptom which frequently exists in pulmonary tuberculosis. In certain cases percussion—above all in the subclavicular region—will excite immediate cough and expectoration. Molle (*Lyon Méd.*, February 7th, 1909) has observed this sign of tapotage in several cases, and disagrees with Erni's opinion that the sign is distinctive of a subjacent pulmonary cavity. He found it in one case of early tuberculous infiltration in which cavitation was extremely improbable, and was not shown by any other sign. On the other hand, "tapotage" is frequently absent where a cavity undoubtedly exists. Nevertheless, the sign is by no means without diagnostic value. Molle has found that it is associated with the neuro-muscular hemiparesis, such as Weil and Jacquet have described in pulmonary tuberculosis; it presents the same characteristic variability and inconstancy, and is due to a hyperaesthesia of the subjacent pulmonary parenchyma, the area of which is the same as the area of hyperaesthesia of the relatively superficial structures such as the muscles and nerves. The cough is, then, reflex rather than of mechanical causation.

170. Diagnosis of the Functional Capacity of the Kidney.

ZAGARI (*Rif. Med.*, February 22nd, 1909) points out that it is often more important to know whether a kidney is functioning adequately than to know whether it is diseased. A diseased kidney, like a diseased heart, may still perform its functions sufficiently well so as to be of less danger than a kidney less diseased but functionally uncompensated. Hence the importance of tests which may be relied on to indicate faulty function on the part of the kidney at early stages. The author has made trial of most of the recognized methods for his purpose, and briefly gives his experience. On the whole, he believes most may be learnt from a careful examination of the way in which chloride of sodium is eliminated. If the kidney is not working well there is almost certainly some retardation, or even retention, of the salt. In a healthy or compensated kidney salt is readily eliminated. In a definitely diseased kidney less than a quarter of the salt is eliminated, and this proportion holds good relatively in milder degrees of disease. In a healthy kidney the salt (meaning in every case a small excess over the normal diet) is quickly eliminated within the first hour, and the earlier the time the quicker the rate of elimination; all this is altered and retarded in kidneys that are not working well. This retarded elimination in diseased kidneys is a valuable indication. The author is alive to the fact that it may not be safe to test the total functional capacity of a kidney by the elimination of one particular solid constituent of the urine, but of the methods tried by him or suggested by others he has found his practically the most useful.

SURGERY.

171. Mobilization of Left Colon in Removal of Cancer of the Sigmoid Flexure and Upper Part of the Rectum.

JAVAILLON AND CHALIER (*Lyon Chir.*, Tome I, No. 4, 1909) describe at length a complicated operation which they have practised on the cadaver, with the expectation that in its application to the living subject it may enable the surgeon to avoid some difficulties, and also the inconvenient result with regard to a false anus, in the removal of large and adherent cancer of the sigmoid flexure and the upper part of the rectum. It has been found by the authors that it is anatomically possible to drag down through a perineal wound the whole of the sigmoid flexure, and to attach the lower part of the descending colon to the margin of the skin wound in this region, after having mobilized the whole of this portion of the intestine. In the first and abdominal stage of this operation the descending colon, together with the splenic

and sigmoid flexures, is, after exposure by left lateral laparotomy, rendered free and floating like small intestine by careful section of the suspensory ligaments of the splenic flexure, of the peritoneal investment along the outer margin of the descending colon, and of the mesenteric attachment of the sigmoid flexure. In the second stage, following complete closure of the abdominal wound, the coccyx is resected and the rectum set free by the usual perineal operation. The sigmoid flexure, and, indeed, most of the descending colon, can now be drawn into the wound. After removal of the growth the lower end of the divided colon can be sutured to the margin of the anus or to that of the rectum, if the lower portion of the gut can be saved. The performance of this operation may, the authors believe, be justified from a physiological point of view by the following considerations: It is a fact that at the present time very extensive resection, and even complete occlusion, of the large intestine may be practised without causing any serious inconvenience. In the second place, the different manœuvres of loosening the attachments of the splenic flexure and the descending portion of the colon are not accompanied by any vascular division capable of impairing the vitality of this portion of the intestine. Perineal displacement of the descending colon does not exert on the blood vessels of this portion of intestine such a degree of traction as might interfere with or even seriously compromise its nutrition. Finally, steps taken before closing the abdomen to fix by sutures the loose and depressed portion of colon would serve to prevent any flexure or faulty position that might ultimately cause any mechanical troubles of the intestine and symptoms of obstruction. This proposed method of dealing with recto-sigmoid cancer is not likely, it is held, to be more severe than the combined abdominal and perineal operation now usually practised in such cases, and it has the great advantage over the latter of saving the patient from the infirmity of an artificial anus in the groin.

172. Endoscopy in Cicatricial Stricture of Oesophagus.

GUISEZ (*Bull. de la Soc. de l'Internat. des Hôpitaux de Paris*, No. 9, 1908) reports very favourably of oesophagoscopy as an aid to the direct treatment of cicatricial stenosis of the oesophagus. By exposing to view the seat of obstruction the surgeon is enabled to deal with any diverticulum that may exist, to find the entrance to the stricture, which has often an eccentric situation, and to treat with good prospects of success a narrow constriction that could not have been dealt with by ordinary means. A very fine bougie having been passed through the stricture under oesophagoscopic control, the further treatment in the author's practice consists, according to the nature and extent of the lesion, either in gradual dilatation, in section of the stricture, or in dilatation by electrolysis. The author describes the results of his treatment in 31 cases of narrow and difficult oesophageal stricture, in 6 of which gastrostomy had been performed. In 25 cases he has succeeded in restoring the calibre of the oesophagus, and in rendering the patients capable of normal or almost normal alimentation. In the cases in which the treatment failed the stenosis was complete, or the author was unable to find the very minute entrance to the stricture. The results obtained in the successful cases are regarded as complete and durable, several patients having passed over intervals of from two to three years without presenting any signs of relapse. The prognosis is better in cases of recent stricture than in those of stenosis of long duration in which the cicatricial tissue is tough and fibrous. The most favourable cases, it is pointed out, are those of short and valvular stricture. Multiplicity of the strictures is not an obstacle to endoscopy, provided each be dilated successively. Long strictures with longitudinal infiltration of the oesophageal walls are very difficult to traverse, and, even if permeable, necessitate for their treatment frequent endoscopic sittings. The author holds that his results have been very satisfactory, as they indicate that a cure can be effected in 80 per cent. of cases in which gastrostomy is the only alternative.

173. Iodoform Amblyopia.

M. ROCHON-DUVIGNEAND brought a case before the Paris Ophthalmological Society (*Recueil d'Ophtal.*, November, 1908) in which symptoms of retrobulbar neuritis followed the injection of 20 c.cm. of glycerine emulsion of iodoform into a psoas abscess. Eight or ten days later the patient began to taste iodoform and have a smell of it in his nose. He had a heavy feeling in his head, but no vomiting or vertigo. Thirty-seven days later amblyopia came on. A double optic neuritis was present, with later a central scotoma for green and red. There was also some peripheral contraction of the fields for these colours. Valude and Terson have published similar results from saturation with iodoform. Both these cases resulted in permanent partial optic atrophy. Sauvineau, during the discussion which followed, stated that he had had a similar case in his practice.

OBSTETRICS.

174. The Induction of Premature Labour.

IN order to determine which method is the best for inducing premature labour, Otto von Herff (*Muench. med. Woch.*, December 15th, 1908) first considers what results have been obtained by hebosteotomy at full time; 664 cases published were found to be available for this purpose. Of these, 4.9 per cent. of the mothers and 9.6 per cent. of the children died; and even when the mothers recovered it was found that a considerable proportion of those examined at a later date showed serious disturbances, which could be ascribed to the operation. In comparing the conditions applying to induced labour, he states that the maternal mortality is less than 1 per cent., although that of the children is 20 per cent. Bumm has succeeded in diminishing the infantile mortality to 13.2 per cent., but at the same time maternal mortality rose to 1.9 per cent. He believes that hebosteotomy must disappear from the list of operations of selection, and only be retained for those cases of urgent necessity in which no doubt exists that the method is sufficient for the case. Every general practitioner should be able to induce premature labour with safety, but, inasmuch as the unfavourable conditions of the private house with regard to antisepsis and asepsis as compared with the clinic might affect his results, it is necessary to introduce the simplest method of inducing labour, in order to keep the maternal mortality as low as possible. The simplest method, undoubtedly, is rupture of the membranes. It is rapidly performed; the armamentarium required is limited to a suitable membrane "Sprenger" (the ordinary pointed probe may be insufficient), and it never fails. As a rule the pains set in after from six to twelve hours, while occasionally a somewhat longer interval may intervene. The patient is kept in bed during this period, and in some cases vaginal douches should be given. No further interference is required, so that the risk of infection becomes almost nil. Von Herff gives the statistical results obtained in his clinic by inducing labour prematurely by rupturing the membranes. Among 12,400 births, 5.7 per cent. were so induced. The pain set in on an average eighteen hours after the rupture. The birth itself usually occupied a shorter period than at full time. Only in 3.9 per cent. of the cases were the pains "too weak." *Part-partum* haemorrhages were not more frequent than when the birth took place spontaneously at full time. The placenta had to be artificially assisted in rather more cases than is usual, but this is probably due to the fact that the induction of premature labour was performed for contracted pelvis. Prolapse of the cord was met with nine times. The infantile mortality was 2.8 per cent. Turning to the condition of pelvis for which premature labour had to be induced, he finds that in 4 cases osteomalacia was present, in 3 cases there was a "filter"-shaped pelvis, and in 1 case each there was a transversely contracted, a coxalgic obliquely, and a kyphotic obliquely contracted pelvis. In all the rest there were simple flattened, general contracted, or general irregular contracted pelves. The conjugate measured from 7½ cm. to 8½ cm. in 73 per cent. of the cases. More important was the estimation of the actual size of the inside of the pelvis in relation to the fetal head. The labour was induced at or after the thirty-fifth week whenever this was possible. Out of 100 such births undertaken by the author at the lying-in hospital one woman died; all the other mothers recovered. Of the 100 children of these mothers, 85 were born alive, while 5 died during the early days of their lives. The remaining 80, however, left the hospital in good condition and with an excellent prospect of life. He compares these results with the results obtained in contracted pelves when the labour was allowed to go to full time; 68 mothers brought their babies into the world without further help, but 30 per cent. of these babies were lost. Forceps were used in 30 per cent. of the cases, with an infantile mortality of 36 per cent.; version yielded an infantile mortality of 76 per cent., while all the operative-born children taken together included 55 per cent. dead children. The whole series showed a loss of infant life to the extent of 45 per cent. This, he claims, speaks

most eloquently in favour of inducing premature labour by rupturing the membranes according to Scheel, at the proper time, for contracted pelvis.

GYNAECOLOGY.

175. Laparo-colpohysterotomy.

A. DÜHRSSEN records a new method of dealing with labour complicated by contracted pelvis (*Berl. klin. Woch.*, February 1st, 1909). The means hitherto at our disposal in such cases have been summed up by Hegar as boring a hole in the head of the fetus, or slitting up the mother's belly, both of which he considers to be inhuman and rough. Sawing through a pelvic bone in the mother is not less objectionable, and should not be performed. Hegar further considers that the classical gynaecological operations are forceps, version, and Dührssen's vaginal Caesarean section. The author agrees that symphysiotomy and pubiotomy will disappear from the list, but he thinks that a new operation—which his assistant, Solms, has devised—will replace it. This is a combination of Ritgen's gastroelytrotomy and vaginal Caesarean section. This operation was performed on a 3-para, whose conjugata vera measured 10 cm.—that is, nearly 4 in. She had lost her two babies during the former births. At the end of pregnancy, after dilating for one hour with a bag, an incision was made above Poupart's ligament on the left side, through the abdominal muscles and fascia transversalis. The bladder was then pushed forward, and the peritoneum was separated from the uterus and pushed upwards. In this way the lower uterine segment was exposed. Very little haemorrhage was experienced, as the inferior epigastric artery was tied in two situations and divided between the ligatures. The next step consisted in incising the anterior vaginal and cervical wall in the manner of anterior colpohysterotomy. The child was lying in the first vertex position. Forceps were applied through the flank wound, and the child was easily delivered through the two openings—that is, that in the vagina and cervix and that in the flank—alive and well. The placenta was expressed *per vias naturales*. Then the vaginal-cervical wound was closed through the vagina, and the flank wound was suture in several layers. The wounds healed by first intention. The uterus underwent a normal involution, and was found three weeks after to be anteflexed, as against a slight retroflexion which was present early in the pregnancy. In discussing the operation, Dührssen states that it was actually extraperitoneal, although the medial incisions do not permit of extraperitoneal access to the uterus. The peritoneum is considerably less firmly fixed laterally than it is in the middle line. No raising of the pelvis is required, so that the danger of air embolus is not present. He mentions that it can be undertaken on any table, and does not need a special operating table with mechanism for tilting the patient upside down. An excellent drainage is provided by the vaginal hysterotomy. Since many cases of contracted pelvis are not seen by the surgeon until attempts have been made to deliver, and since these attempts include the introduction of the faultily disinfected hand into the genital canal, a considerable proportion of the cases will not be free from some infection, and for this reason good drainage is of paramount importance. He further discusses in some detail the advantages of his operation over Frank-Sellheim's Caesarean section. E. Solms adds a short description of the operation itself, and deals with the technique of the same.

THERAPEUTICS.

176. Karell's Milk Cure.

L. ROEMHELD (*Monatsschr. f. d. physikal.-diätetischen Heilmethoden*, January, 1909) describes Karell's milk cure, with its modifications and the widened indications for its use. Karell in 1865 reported on 200 cases in which he had employed a milk cure for the purpose of unloading the system generally and especially the circulatory organs; his method was to administer the milk at first three or four times a day, later at four-hourly intervals, the quantity allowed being half or a whole coffee-cupful of skim milk to be taken in sips. Recently Jacob has given a report of Karell's cure as systematically employed by Lenhartz during fifteen years in the treatment of chronic bronchitis, of heart disease with failure of compensation, and of obesity with an overtaxed heart. Under Lenhartz the patient was absolutely at rest in bed, and for the first five to seven days of treatment received four times a day 200 c.cm. of milk. During the next two to six days an egg, *Zwieback*, and later minced meat and vegetables, etc., were added, so that after about twelve days there was a return to a full mixed diet. During the treatment special attention was given to securing a regular evacuation of the bowels. In cases where the heart had sufficient reserve power the effect of the treatment was seen in greatly increased diuresis, in loss of weight, and in re-establishment of cardiac compensation; in some cases it was advisable to administer digitalis during the period. Where the cure failed it was, as a rule, a sign of advanced degeneration of the cardiac muscle. Roemheld and also Moritz, without knowledge of Karell's cure, have recently recommended milk cures for obesity. Roemheld arrived at the treatment from a consideration of the diuretic action of a salt-free diet. He puts his patients on to milk for two or more days of each week throughout the whole cure; on "milk days" he allows 1,000 to 1,200 c.cm. of milk; on other days a mixed diet such as to afford two-fifths to three-fifths of the necessary calories. The diet is especially suited for patients suffering from heart disease, gout, or nephritis. The "milk days" are especially effective at the beginning of a cure where there is failure of compensation. At the end of a cure a patient may keep his weight down for an indefinite time if he will continue to have two of the "milk days" each week. Moritz goes further than Roemheld, and recommends a pure milk cure to be continued for weeks. On his system the amount of milk required is calculated on the normal weight of the patient, and varies from 1¼ to 2½ litres a day. Moritz claims that the cure is the simplest one for obesity; the patient loses on an average 200 grams of weight a day without suffering from thirst or great hunger. As a rule the patient can go about his work during the cure, but he must be under medical observation. A consideration of Karell's original cure suggests that its good effects are due, first, to the sparing of the heart as a result of underfeeding and rest, and, secondly, to the diuretic action of the milk with its small percentage of NaCl. Roemheld would therefore recommend the original cure in cases of failure of compensation, whether as a result of heart or kidney lesion or of chronic bronchitis. In cases of obesity he would combine his own and Moritz's cure, beginning with a pure milk cure, and later, in order to avoid monotony, going on to a mixed diet of lower than normal caloric value with the systematic use of certain "milk days" each week; when the cure is ended he would still recommend the "milk days" as a means of making the results of the cure more lasting. Emphasis is laid on the fact that any cure for obesity which involves underfeeding should be carried out under medical supervision and should be adapted to the individual case.

177. Veronal Sodium.

H. WINTERNITZ points out that Merck and Bayer, who manufacture veronal, have brought out a sodium diaethyl barbiturate, which they quite properly call "sodium veronal," while Schering produces the same combination under the artificial name of *medinal* (*Muench. med. Woch.*, December 15th, 1908). This double patenting of the same substance reveals a peculiarity of the German patient law. Sodium veronal is far more soluble than is veronal, 1 part of the former being soluble in 5 parts of cold water, while 1 part of the latter is only dissolved in 145 parts of cold water. The author states that sodium veronal is split up in the acid contents of the stomach into veronal, but on reaching the alkaline intestines the sodium salt is again formed. The only advantage of the sodium salt over ordinary veronal is therefore its solubility, but since the stomach usually contains sufficient fluid to dissolve a dose of veronal, the rapidity of action is usually the same in both cases. When administered per rectum in the form of suppositories, the sodium salt has advantages over veronal, but the action is not reliable. Applied subcutaneously or intramuscularly, sodium veronal is rapidly absorbed. The author has given it in 10 per cent. solution, of which he injected from 5 c.cm. to 10 c.cm. He was unable to try the hypnotic effect in cases of excitement or intractable sleeplessness, but in cases of sleeplessness following sciatica and intercostal neuralgia, he gave both forms of injection, and was surprised to find that the hypnotic action was very slight. Sleep only set in after from three to four hours, was not deep, and only lasted for a short time. When applied intramuscularly during the daytime, no hypnotic effect appeared at all; ½ gram of sodium veronal given internally acted more powerfully in inducing sleep than 1 gram given subcutaneously. On the other hand, in neuralgic pains, the intramuscular injections acted exceedingly well in relieving the pain. This he was able to test in six cases of sciatica and one of alcoholic intercostal neuralgia. He

points out, however, that we possess local anaesthetics which are more powerful and better adapted to local pain-stilling. He concludes by relating the rough data of some experiments which, in his opinion, show that the respiratory centre requires a considerably more powerful stimulation to produce increased work during sleep (including hypnotic sleep) than in the waking condition. The diminution of the respiratory activity during sleep is produced by a diminution or cessation of sensory and psychic stimuli on the centre as well as by a diminution of the excitability of the respiratory centre. This applies to sleep induced by veronal, amylene hydrate, chloral hydrate, etc., as well as to natural sleep.

178. Neuroprin.

ROASENDA (*Gazz. degli Osped.*, No. 21, February, 1909) has noticed good results in the treatment of certain convulsive types of nervous disease by means of neuroprin, which is an extract of nervous tissue, and has been compared to digitalis in as far as its tonic action on the nervous system is concerned—as digitalis is a cardiac tonic, so neuroprin is a specific nerve tonic. The author has used the drug with success in epileptics, in epileptoid attacks, in neurasthenia (especially when marked by insomnia, mental and physical excitability followed by speedy exhaustion), in Graves's disease, and in one case of paralysis agitans. From his experience he believes that neuroprin is a good nerve sedative and tonic, and may in certain cases prove a useful substitute for the bromides and other cortical sedatives. He has not observed any ill-effects from its use.

179. Atoxylate of Mercury in Spirochaetal Diseases.

UHLENHUTH AND MANTEUFEL (*Mediz. Klinik*, October 25th, 1908) have found the mercury salt of p-amido-phenyl-arsenic acid, or mercury atoxylate, more efficacious than either mercury or atoxyl alone in the treatment of syphilis. (1) Mercury atoxylate, given in a single injection in doses well below the toxic, kills fowl spirochaetes in the organism with certainty. A single intramuscular injection affords sure protection against subsequent infection by fowl spirochaetes, even when this occurs only one or two days afterwards. (2) In the treatment of syphilis in rabbits, mercury atoxylate has shown itself superior to all other mercury and atoxyl preparations. A single injection in all Uhlenhuth's and Manteufel's cases caused the disappearance of severe corneal syphilis in from five to six days. So far relapses have not been observed. (3) The preparation acts also on the spirochaetes in the recurrent infection of rats. The slight resistance of rats towards the preparation makes a true judgement difficult. The application of this preparation to monkeys and human beings will further elucidate its efficacy. (4) In trypanosome infections (dourine, sleeping sickness) the preparation has a good effect. The introduction of mercury into the atoxyl group seems to raise in a very marked manner its spirochaetal-destroying property. (5) In a test tube the preparation is distinguished from atoxyl by the fact that, though it is with difficulty soluble in water, it rapidly kills trypanosomes and spirochaetes. The surprising results in rabbit syphilis induced the writers to recommend mercury atoxylate in the local and general treatment of human syphilis; they hope by this preparation to simplify and accelerate treatment, and suitable trials are already being carried out.

PATHOLOGY.

180. The Development of Sarcoma after Transplantation of a Carcinoma.

BASHFORD, MURRAY, AND HAALAND recently described the development of a sarcomatous tumour out of carcinoma of a white mouse. Ehrlich and Apolant have also been able to describe this phenomenon in their mice. Loeb has been able to observe a similar alteration in the type of growth, and reports briefly some of the more important points in connexion with this case, while he reserves the full description together with the microscopical appearances for a future publication (*Deut. med. Woch.*, January 1st, 1908). The case was one of an adeno-carcinoma of a Japanese mouse, thus differing from the other cases which affected white mice. The primary tumour was characterized by the plentiful presence of vacuole cells. The primary tumour was situated in the submaxillary gland. At first there was no reason for regarding the tumour as a mixed tumour, and it was only after the successive inoculation that the type changed to that of a sarcoma. The sarcomatous type appeared first in the second generation, which proves that the change was not due to a stimulus which arose after the repeated transplantations or to an increase of virulence obtained by several passages. The sarcomatous element was found in all the replanted tumours which were obtained from the first sarcomatous tumour. It therefore appears that the sarcoma formation does not depend on a constitutional peculiarity of the animal into which the tumour is grafted, nor does it depend on any accidental circumstance in connexion with the transplantation. Loeb shows that such a transformation does not require a special virulence of the original carcinoma; indeed, he finds that considerable variations in the inoculability of the tumours have been met with. In his series he obtained 100 per cent. of successful implantations, as against the 50 per cent. which Bashford and his colleagues obtained. He argues that the development of sarcoma depends on the overgrowth of the connective tissue of the animal into which the tumour is implanted. In support of this he states that in his cases, in the first generation, he found that the connective tissue of the implanted growth showed degeneration, while the epithelial elements proliferated. At the time strands of newly-formed connective tissue were seen which stood in direct connexion with the connective tissue of the host. Further, he found that the sarcomatous elements were situated at the periphery of the growths and not among the carcinoma nests. In some of the tumours of subsequent generations he found three types of growth: (1) Large sarcomatous growths situated apart from large carcinomatous growths in the same animal. (2) The sarcomatous tissue invaded the carcinomatous growth. (3) The growth was chiefly sarcomatous, but small nests of carcinoma were included in the tumour. He proceeds to describe certain changes which were met with in the structure of both elements. The chief changes in the carcinomatous portions consisted in the decrease and eventual disappearance of the vacuolated cells. As far as the sarcomatous elements were concerned, here again he found that the structure tended to become much more simple. At first there was a well-marked polymorphous character of the cells, but this was absent in subsequent generations. He found that while the first sarcomatous tumours tended to grow slowly, later on the transplanted tumours became more rapid in their growth, and, speaking generally, he states that quick-growing recurrent sarcomatous tumours were richer in cells than the slow-growing primary sarcoma. While he realizes that one is not in a position to explain the occurrence of sarcomatous elements after transplantation of carcinomata, he suggests that it is possible that some micro-organism may be transferred from the epithelial cells to the connective cells. This theory would not clash with the finds of the other workers, but it must be understood that so far it is a mere hypothesis.

181. Ichthyosis Fetalis.

COSTON (*Amer. Journ. Obstet.*, October, 1908) has published a report of another case of this disease, issued almost at the same time as Henneberg's paper in the *Ann. de Gynéc. et d'Obstét.*, September, 1908, with a good synopsis of earlier literature on the subject. In Coston's case the parents were a healthy country couple, the father aged 21, the mother 17, a primipara; they lived in a salubrious district near Birmingham, Alabama, and all their antecedents and surroundings were satisfactory. Pregnancy speedily followed marriage. In the fifth month, when the patient was in perfect general health, and free from pain, a copious sero-sanguinolent discharge set in. The uterus was as big as it normally is in the seventh month; the fetal heart sounds were audible. Coston suspected twins, as both parents had twin brethren. He applied the tampon when an attack of flooding occurred. Seven days later labour came on, the breech presenting. Delivery was easy; the membranes were preserved intact until the breech was passing the vulva, when they ruptured spontaneously. A considerable portion of the placenta was torn off by the advance of the head. The fetus made feeble attempts to breathe. The placenta was of enormous dimensions, a fact which accounted for the great distension of the uterus, and for the haemorrhages; it extended from the fundus almost to the os internum, and measured 3½ in. at its thickest part. Ichthyotic patches were detected on the surface of the umbilical cord, and on the amnion, which was of extreme thickness. During delivery, Coston noticed that the fetal limbs were rough and scaly. The fetus was covered from head to foot with characteristic rough scales, separated by fissures. The feet and hands were clubbed, and the nose and eyes deformed; there were no abnormalities in the ano-genital region. The thickening of the skin caused considerable rigidity of the trunk and limbs.